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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/866,337

05/25/2001

Darren Chen

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08/03/2005

DISCOVISION ASSOCIATES
INTELLECTUAL PROPERTY DEVELOPMENT
2355 MAIN STREET, SUITE 200
IRVINE, CA 92614

EXAMINER

LAVARIAS, ARNEL C

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 08/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/866,337

Applicant(s)

CHEN, DARREN

Examiner

Arnel C. Lavarias

Art Unit

2872

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 May 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,8-15 and 17-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8-15 and 17-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendments to Claims 1, 11-12, 14, 17-18 in the submission dated 5/31/05 are acknowledged and accepted. In view of these amendments, the objections to the claims in Section 7 of the Office Action dated 3/1/05 are respectfully withdrawn.

Response to Arguments

2. The Applicant's arguments filed 5/31/05 have been fully considered but they are not persuasive.
3. The Applicant argues that, with respect to newly amended Claims 1, 11-12, 14, 17-18, the teachings of Sugiura et al. and Goldsmith et al. fail to disclose or reasonably suggest an optical device, system, and method, wherein the optical device includes an optical system having a bending optical path. The Examiner respectfully disagrees. In particular, each of Sugiura et al. and Goldsmith et al. discloses an optical system having a bending optical path (See for example the bending light path from element 11 to element 20 in Figure 19 of Sugiura et al.; see also the bending light path from element 108 to element 38 via element 124 in Figure 4 of Goldsmith et al.).
4. Claims 1, 3-5, 8-15, 17-20 are now rejected as follows.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-4, 11-13, 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. (U.S. Patent No. 5999509), of record.

Sugiura et al. discloses an optical device (See Figure 19) used in an optical read/write head, comprising a first light-penetrable material (See 2E1 in Figure 19) having a first side and a second side wherein a first reflecting light (See light emitted by 11 in Figure 19) of the first side has a different angle from a second reflecting light (See light emitted by 12 in Figure 19) of the second side wherein the second reflecting beam passes through the first side and causes a refractive light at an identical optical axis (See light traversing element 20 in Figure 19; it is noted that the lights traversing the optical system in Figure 19 inherently observe Snell's law), the optical device being in an optical system of the optical read/write head having a bending optical path (See for example bending light paths from 11 to 20, 12 to 20, 13 to 20, or 30 to 20 in Figure 19). Sugiura et al. additionally discloses the first and second light both being a laser beam (See 11, 12 in Figure 19); the first and second sides including first and second coating planes, respectively (See Figure 6; col. 11, lines 27-56), coated on two opposite sides of the light penetrable material (See Figure 6; 19; col. 11, lines 27-56), these optical planes reflecting at least one laser beam and for refracting a reflective beam to an identical axis (See

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Figure 19); a second light-penetrable material for reflecting a third light to the optical axis (See light emitted from 13; 2E2 in Figure 19) and refracting a third reflective light to the optical axis (Again, see light emitted from 13; 2E2 in Figure 19); and a third plane on the second light penetrable material (See 'C' in Figure 19), the third light passing through the first optical coating plane and the second optical coating plane and then the third light being reflected to the optical axis by the third plane (See light emitted by 13 in Figure 19). Sugiura et al. does not specifically disclose that the first and second lights are generated at different timing, or non-simultaneously. However, as is known in the art, such conventional optical pickups or optical heads that are used both for CD's, CD-R's, and DVD's include multiple light sources, each at different wavelengths, and appropriate optics to guide the emitted light from the multiple light sources to the CD, CD-R, or DVD disk (See 11, 12, 13 in Figure 19; col. 5, line 42-col. 6, line 16; col. 8, line 7-col. 9, line 37 of Sugiura et al.). Further, such conventional optical pickups or optical heads only read one particular type of disk at a time, and not all at the same time. Thus, only one of the multiple laser sources will be active based on the particular type of disk being read out. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first and second lights of the optical device of Sugiura et al. be generated at different timing, or non-simultaneously, for the purpose of reducing power that is wasted by having all of the lasers turned on at the same time.

7. Claims 5, 8-9, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. in view of Vincent et al. (U.S. Patent No. 4870268), of record.

Sugiura et al. discloses the invention as set forth above in Claims 1, 18, except for the first and second planes being parallel. However, such is well known in the more conventional forms of beam splitters and combiners. For example, Vincent et al. teaches trichromatic beamsplitters for use in combining several beams of light and separating a single beam of light into several beams (See for example Figure 20; Abstract; col. 15, line 31-col. 16, line 5). In particular, Vincent et al. teaches that the optical reflecting surfaces of such beam splitters may be fabricated from dichroic optical coatings (See col. 6, lines 19-68), and that the reflective faces may be parallel to each other (See for example Figures 3, 21; col. 6, lines 33-39). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the first and second planes of the optical device of Sugiura et al. be parallel, as taught by Vincent et al., to simplify optical alignment of the input optical light beams, while reducing cost of the optical element, since non-standard angles or edges are not required to be polished onto the optical element.

8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. in view of Vincent et al.

Sugiura et al. in view of Vincent et al. discloses the invention as set forth above in Claims 1, 5, 8-9, except for the third plane being an optical coating plane. However, Sugiura et al. specifically discloses that the optical planes in the optical device may be optically coated planes, i.e. these partially reflecting planes may be coated with multiple layer optical thin films (See col. 11, lines 27-56, regarding a disclosed example of the device having one light transmissible device with two optical coating planes). Therefore,

it would have been obvious to one having ordinary skill in the art to have the multiple optical planes, including the third optical plane, in the optical device of Sugiura et al. in view of Vincent et al., be an optical coating plane, for the purpose of enhancing the reflectivity the light incident on those optical planes, thus increasing the signal throughput of the optical device along the optical axis.

9. Claims 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. in view of Goldsmith et al. (U.S. Patent No. 5113387), of record.

Sugiura et al. discloses an optical system for writing to and reading from an optical disk and a method of directing multiple light beams to the surface of an optical disk (See Figure 19), the system comprising a plurality of light beams (See 11, 12, 13 in Figure 19); an optical component comprising a plurality of optical planes for respectively reflecting at least one light beam of the plurality of light beams and refracting a reflective beam to an identical optical axis at different angles (See 2E in Figure 19; it is noted that the lights traversing the optical system in Figure 19 inherently observe Snell's law), the optical system having a bending optical path (See for example bending light paths from 11 to 20, 12 to 20, 13 to 20, or 30 to 20 in Figure 19). It is noted that that the recited methods steps for directing multiple light beams to the surface of an optical disk are inherent to the above structure. Sugiura et al. does not specifically disclose that the lights are reflected at different timing; and a mirror configured to direct any one of the light beams oriented at the identical optical axis to the surface of the optical disk. However, as is known in the art, such conventional optical pickups or optical heads that are used both for CD's, CD-R's, and DVD's include multiple light sources, each at different

wavelengths, and appropriate optics to guide the emitted light from the multiple light sources to the CD, CD-R, or DVD disk (See 11, 12, 13 in Figure 19; col. 5, line 42-col. 6, line 16; col. 8, line 7-col. 9, line 37 of Sugiura et al.). Further, such conventional optical pickups or optical heads only read one particular type of disk at a time, and not all at the same time. Thus, only one of the multiple laser sources will be active based on the particular type of disk being read out. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the lights of the optical device of Sugiura et al. be reflected at different timing, for the purpose of reducing power that is wasted by having all of the lasers turned on at the same time. The teachings of Sugiura et al. do not disclose a mirror configured to direct any one of the light beams oriented at the identical optical axis to the surface of the optical disk. However, the use of such folding or beam steering mirrors is known in the art. For example, Goldsmith et al. teaches a conventional optical device and method used in an optical read/write head comprising a first optical plane (See 104 of Figure 4) and a second optical plane (See 102 of Figure 4) for respectively reflecting a first light (See beam emitted from 54 in Figure 4) and a second light (See beam emitted from 52 in Figure 4) to an identical optical axis (See combined beam reflecting off of 104 and 102 and directed to 124 in Figure 4). Additionally, Goldsmith et al. teaches the use of a mirror (See 124 in Figure 4), which is configured to direct any one of the light beams oriented at the identical optical axis to the surface of an optical disc (See 10 in Figure 4); and the optical system having a bending optical path (See for example the bending light path from element 108 to element 38 via element 124 in Figure 4). Therefore, it would

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have been obvious to one having ordinary skill in the art at the time the invention was made to have the optical device of Sugiura et al. further include a mirror configured to direct any one of the light beams oriented at the identical optical axis to the surface of the optical disk, as taught by Goldsmith et al., to reduce the size and space taken up by the optical system.

10. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugiura et al. in view of Goldsmith et al. as applied to Claim 14 above, and further in view of Fukakusa et al. (U.S. Patent No. 6256283), of record.

Sugiura et al. in view of Goldsmith et al. discloses the invention as set forth above in Claim 14, except for a plurality of light sources combined together in the same pack wherein the plurality of light beams are produced, respectively, from the plurality of light sources. However, Fukakusa et al. teaches an optical pickup device (See for example Figures 1 and 7) wherein multiple light sources, such as laser diodes (See 2, 9 in Figures 1 and 7) are provided in the same package (See Figure 7). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the plurality of light beams of Sugiura et al. in view of Goldsmith et al. be produced from a plurality of light sources combined together in the same pack, as taught by Fukakusa et al., for the purpose of reducing the size and weight of the overall optical pickup head.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnel C. Lavarias whose telephone number is 571-272-2315. The examiner can normally be reached on M-F 9:30 AM - 6 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

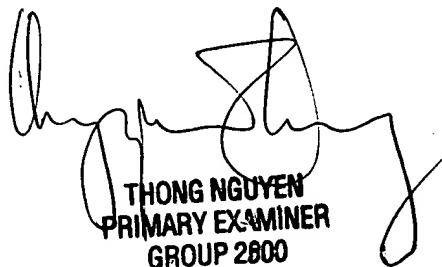
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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Arnel C. Lavarias

7/29/05



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